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Hiring Team
Upstart
2950 S. Delaware Street
San Mateo, CA 94403

Dear Hiring Team,

I am writing to express my enthusiastic interest in the Machine Learning Engineering Intern position at Upstart. As a Ph.D. candidate in Computer Science at the University of Oklahoma specializing in machine learning and Transformer architectures, I have built end-to-end deep learning systems that solve complex, real-world problems. Upstart's commitment to making machine learning "the product" resonates with my experience developing rigorous, production-ready code that drives measurable impact.

My background aligns closely with the technical and research-oriented requirements of this role:

- **Scalable ML engineering:** I have experience building scalable ML pipelines on HPC infrastructure. In my recent work with NSF AI2ES, I designed parameter-efficient neural architectures that achieved a $13\times$ improvement over classical models for environmental data estimation.
- **Production-grade Python:** I am proficient in Python and frameworks such as TensorFlow and Keras. My work often involves irregular spatio-temporal datasets using Xarray and Pandas, ensuring the resulting code is efficient and reliable.
- **Algorithmic innovation:** Beyond standard implementations, I specialize in decision-making under partial observability. Whether developing U-Net models for methane detection for NASA or building vision-based systems for atmospheric visibility, I focus on improving predictive power and robustness.
- **Collaborative mindset:** As a Graduate Research Guide, I mentor undergraduate students and communicate complex findings to stakeholders, a skill set I am eager to bring to Upstart to align team goals and drive project next steps.

I am particularly drawn to Upstart's focus on fairness and explainability. My research into latent belief models and coordination emergence requires a deep understanding of why models make certain "decisions," a perspective I believe is vital for Upstart's applications.

I am on track to complete my Ph.D. by 2027 and am eager to apply my research to engineering challenges at Upstart. Thank you for your time and consideration. I look forward to the possibility of discussing how my background in high-impact ML research can contribute to your team.

Sincerely,

Vishnu Kadiyala
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